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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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06/23/2006

Thomas Schuster

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12/28/2007

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EXAMINER

PHAM, EMILY P

ART UNIT

PAPER NUMBER

2838

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/584,337

Applicant(s)

SCHUSTER ET AL.

Examiner

Emily P. Pham

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 6/23/2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 11/13/2006 & 8/08/2006.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements (IDS) submitted on 11/13/2006 & 8/08/2006 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, nonlinear filter, additional filter, analog to digital converter, microprocessor, and PT1 filter must be shown or the feature(s) canceled from the claim(s) 8, 9, 10, 12, and 14. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must

be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities:
 - "is" (page 1, line 5) does not have subject, the sentence is not complete.
 - It is ambiguous whether 42 is the integrator or 42 is operational amplifier (page 7, lines 9-12).

Appropriate correction is required.

4. The specification has not been checked to the extent necessary to determine the present of all possible minor errors. The cooperation of applicant is requested in correcting any error of which applicant may become aware of in the specification. The substitute specification filed must be accompanied by a statement that it contains no new matter.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 8-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 8 recites the limitation "the signals" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unable to constitute a limitation in a patentable sense. It has been held that the recitation that an element is "adapted to" perform a function is not a positive limitation but only requires the ability to so perform. It does not constitute a limitation in any patentable sense. *In re Hutchison*, 69 USPQ 138.

9. Claims 8, 9, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji et al. (U.S. Patent 6,760,237), further in view of Iwashiro (U.S. 2004/0213100), and further in view of Katagiri (5,355,136).

10. Regarding independent claim 8:

Tsuji et al. (**FIG 1**) disclose a current generator-motor performing current sense (**FIG 1, 50, 51, 52**).

However Tsuji et al. does not disclose a nonlinear filter, output signals of the nonlinear filter fed to an additional filter that is connected to an analog-to-digital converter.

Iwashiro (**FIG 1**) teaches a nonlinear filter (**FIG 1, 11**), output signals of the nonlinear filter fed to an additional filter (**FIG 1, 11, 12**).

Tsuji et al. and Iwashiro teach the device to control electric motor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine techniques taught by Tsuji et al. and Iwashiro for the purpose of increasing the efficiency of signal processing by using the nonlinear filter to suppress internal vibration having a frequency component other than a frequency of disturbance as Iwashiro states in Brief Summary of the Invention.

However Tsuji et al. and Iwashiro in combination do not disclose an analog-to-digital converter connected to addition filter.

Katagiri (**FIG 46**) teaches an analog-to-digital converter connected to addition filter (**FIG 46, 101, 102**).

Tsuji et al., Iwashiro, and Katagiri teach the device to control electric motor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine techniques taught by Tsuji et al., Iwashiro, and Katagiri for the purpose of achieving accurate signal conversion.

11. Regarding dependent claim 9:

Katagiri (**FIG 46**) teaches the converter wherein the analog-to-digital converter is integrated in a microprocessor (**FIG 46, 101, 102, 103**).

12. Regarding dependent claim 12:

Iwashiro (**FIG 1**) teaches the converter, wherein the additional filter includes a linear filter (**FIG 1, 12**).

13. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji et al. (U.S. Patent 6,760,237), further in view of Iwashiro (U.S. 2004/0213100), further in view of Katagiri (U.S. Patent 5,355,136) as applied to claim 8 above and further in view of Hoang et al. (U.S. Patent 6, 559,735).

Tsuji et al., Iwashiro, and Katagiri in combination disclose the claimed invention except for the nonlinear filter including a transmitter.

Hoang et al. (**FIG 1, FIG 2**) teach the nonlinear filter including a transmitter (**FIG 2, 200, 210; column 4, lines 14-16**).

Tsuji et al., Iwashiro, Katagiri, and Hoang et al. teach device related to signal processing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine techniques taught by Tsuji et al., Iwashiro, Katagiri, and Hoang et al. for the purpose of increasing the efficiency of the filter without increasing the size or the cost of the device as Hoang et al. state in Summary of the invention.

14. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tsuji et al. (U.S. Patent 6,760,237), further in view of Iwashiro (U.S. 2004/0213100), further in view of Katagiri (U.S. Patent 5,355,136) further in view of Hoang et al. (U.S. Patent 6, 559,735) as applied to claim 10 above and further in view of Nordling (U.S. Patent 3,922,606).

Tsuji et al., Iwashiro, Katagiri, and Hoang et al. in combination disclose the claimed invention except for the run-up transmitter including a comparator and an integrator.

Nordling teaches the run-up transmitter including a comparator and an integrator (**column 2, lines 33-34**).

Tsuji et al., Iwashiro, Katagiri, Hoang et al., and Nordling teach device related to signal processing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine techniques taught by Tsuji et al., Iwashiro, Katagiri, Hoang et al., and Nordling for the purpose of increasing the efficiency of signal transmission.

15. Regarding dependent claims 13:

Prior arts disclose the claimed invention except for a value corresponding to a rated current of the converter, that value is attainable for the run-up transmitter in a time between 5 and 10 .mu.s. It would have been obvious to one having ordinary skill in the art at the time the invention was made to set up the device to obtain a value corresponding to a rated current of the converter for the run-up transmitter in a time between 5 and 10 .mu.s., since it has been held that

where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

16. Regarding dependent claim 14:

Prior arts disclose the claimed invention except for the filter with a time constant having a value one of (a) between 15 and 25 .mu.s and (b) approximately 20 .mu.s. It would have been obvious to one having ordinary skill in the art at the time the invention was made to set up the filter with a time constant having a value one of (a) between 15 and 25 .mu.s and (b) approximately 20 .mu.s., since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Conclusion

17. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Ungerboeck (U.S. 2005/0002462) and Marusarz (U.S. Patent 6,759,822).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emily P. Pham whose telephone number is (571) 270-3046. The examiner can normally be reached on Mon-Thu (7:00AM - 6:00PM).

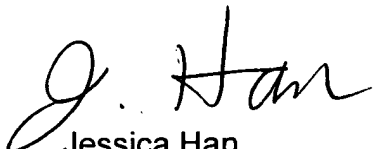
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Akm Ullah can be reached on (571) 272 - 2361. The fax

phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Dec. 2007

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